MP4

Sub Machine Gun

Version History

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1 Introduction

The MP4 is the entry level Lasertag weapon from P & C Micro's. It allows the player to experience the fun of Lasertag, whilst also giving the field operator the better of two worlds: Backwards compatibility with the predominant format (WoW), plus a clear path forward with the EWoW format.

1.1 What is WoW?

WoW was originally an acronym for the World of Wonders Company, the developer of the original Lasertag game. The acronym is now more commonly used to refer to weapons from any manufacturer that uses the same infra-red protocol.

1.2 What is EWoW?

EWoW stands for Enhanced World of Wonders. It is a protocol that is backwards compatible with WoW – at specific times. This may sound limiting, but ensures both formats can be used together. EWoW was developed by P&C Micro's.

2 Pictures

2.1 Exterior

Figure 1 - Overall view

Figure 2 - Left hand side with sensor coiled

Figure 3 - Left hand side

Figure 4 - Right hand side

2.2 Interior

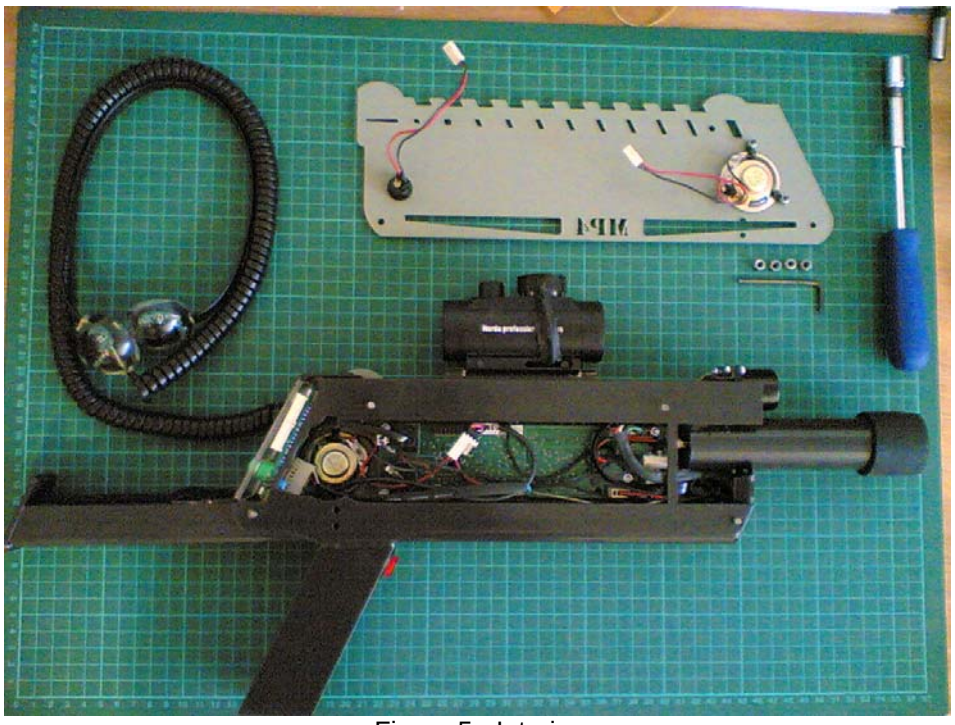


Figure 5 - Interior

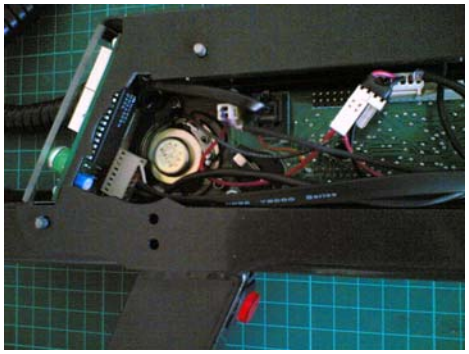


Figure 6 - Interior (rear)

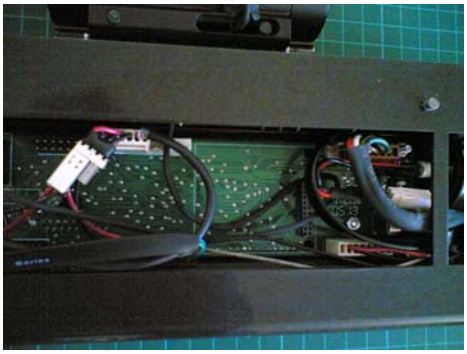


Figure 7 - Interior (front)

3 Features

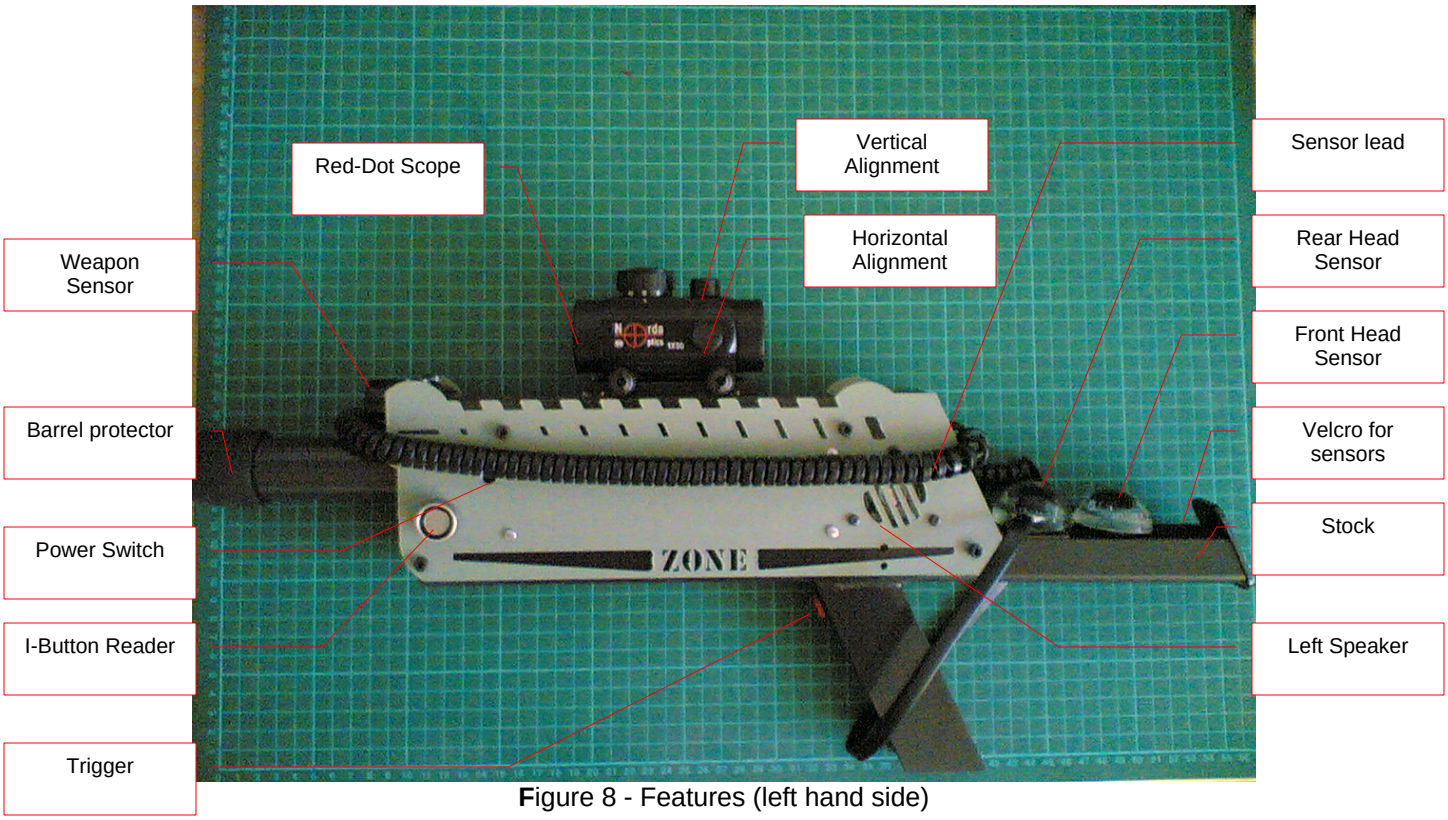


Figure 8 - Features (left hand side)

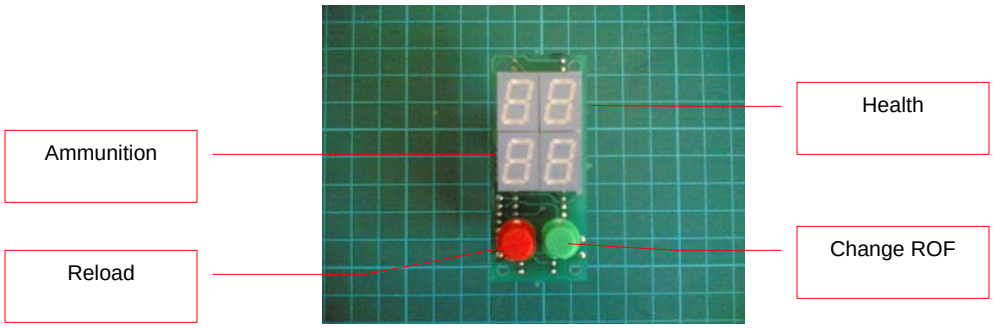


Figure 9 - Rear controls

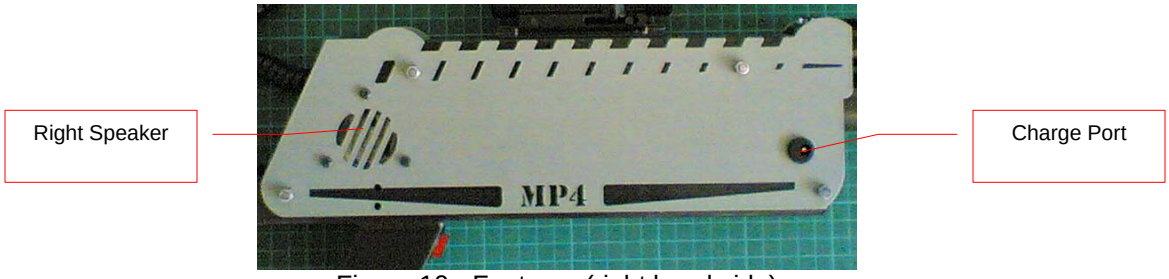


Figure 10 - Features (right hand side)

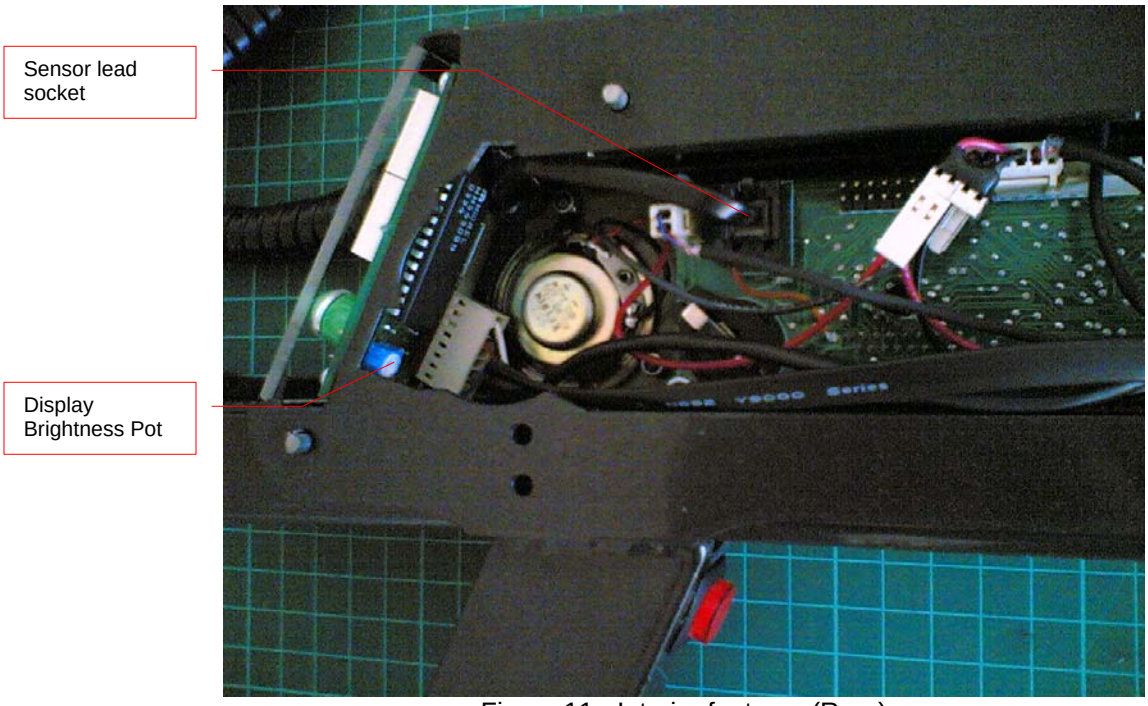


Figure 11 - Interior features (Rear)

4 Specifications

Name	**MP-4**
Type	Sub Machine Weapon
Range	60m
Standard Scope	Red-Dot (Powered from Gun)
These are configurable via the Mission Software	
Standard Clips	5
Standard Clip size	30
Standard RPM	U/K
Std. Accessories	Nil
Weight	1.5 Kg
Length	580 mm
Battery	Inc
Recharger	Plug only
Warranty	12 Months return to base

5 Charging

Warning

The gun must be turned on before charging, otherwise irreversible damage may occur.

Each gun requires an external power pack (minimum 9 volts DC @ 1 Amp with a 2.1mm DC Plug). Check with your local distributor for availability.

Figure 12 – Charging Sequence

First Screen: Power On

Second Screen: Charging lead has been applied

Third Screen: Checking Battery is ready to be charged

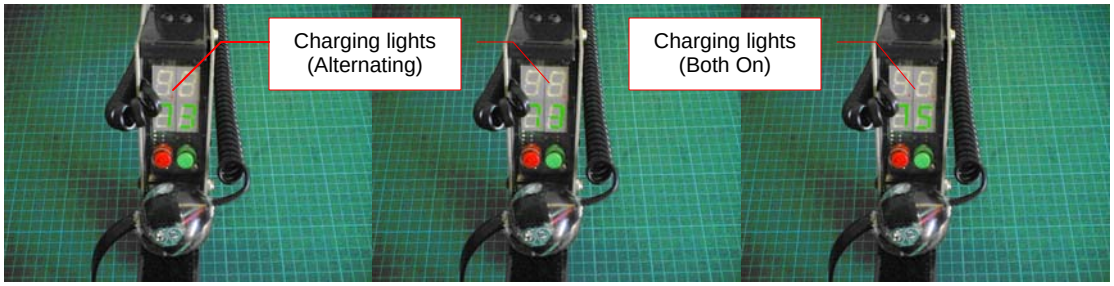


Figure 13 – Charging Sequence

First Screen: An indicator light in the top half of the display will be illuminated indicating charging power has been applied, and in the bottom half of the display will be current voltage that is being applied to charge the battery.

Second Screen: The indicator will move from side to side in the top half of the display indicating that charging is occurring.

Third Screen: When both indicator lights are illuminated and the voltage has reached approx. 7.5 Volts, this indicates that the charging cycle has completed, and the charge lead may now be removed.

Charging time will vary dependant on the current battery voltage. This may vary from an hour, possibly up to several hours for new batteries. If you have questions about how long a battery should be on charge for, contact your local distributor.

6 Power-On Sequence

6.1 EWoW Mode

Figure 14 – EWoW Power-On Sequence

First Screen:	Power Off
Second Screen:	Gun ID
Third Screen:	Software version
Fourth Screen:	Weapon Type
Fifth Screen:	Current Clan ID and Game No. The weapon is now awaiting a game start command from the Mission Controller.

6.2 BFS Mode

Figure 15 – BFS Power-On Sequence

To utilise the BFS (Battlefield Sports) mode on this weapon, you will have to do the following.

First Screen:	Power Off
Second Screen:	With the reload button being held down whilst turning the weapon on, will put the weapon into BFS mode. At this screen, you can choose the Primary or Secondary modes for the weapon. These can be accessed by using the reload and change ROF buttons. To move to the next menu, press the trigger.
Third Screen:	Will allow you to select Sound Set 1 (normal weapon fire sounds) or Sound Set 2 (sci-fi sounds). These can be accessed by using the reload and change ROF buttons. To move to the next menu, press the trigger.
Fourth Screen:	Will allow you to select how many lives are to be given the player. These can be accessed by using the reload and change ROF buttons, which will allow positive and negative movement of the lives counter. (Max Lives is 99). To move to the next menu, press the trigger.
Fifth Screen:	Once you have reached this screen, the weapon has been configured and is ready to play. From this point forward you are able to shoot anyone, inclusive of your team mates.

7 Configuration

7.1 Gun ID

Before playing, you may want to set the ID of the MP4 according to what weapon you wish to emulate (in BFS mode), and the weapon ID whilst in EWoW mode.

Each weapon has a specific range of identifying numbers.

BFS equivalent	ID Range	Gun type
Commando	57 – 64	Sniper #3
Berserker	89 – 100	Assault Rifle #3
Scorpion	89 – 100	Assault Rifle #3
Pulse Rifle	101 – 112	Assault Rifle #4
Morita	113 – 124	Assault Rifle #5
M16	125 – 136	Assault Rifle #6
Mini spitz	177 – 189	Machine Pistol #3
Spitfire	197 – 208	Machine Pistol #4

Switch 1 (SW1) is used to set the appropriate ID.

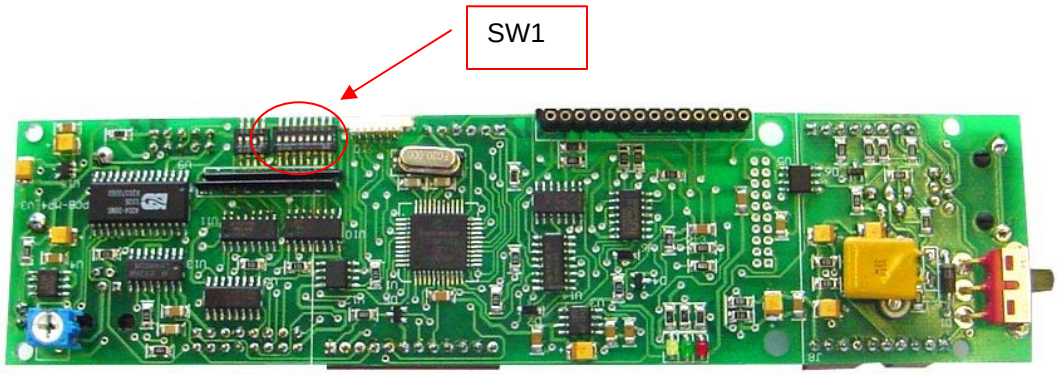
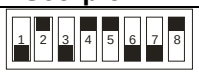
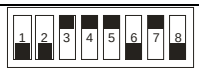
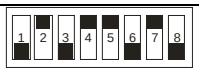
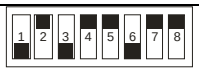
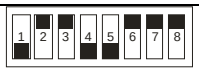
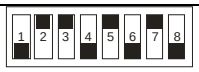
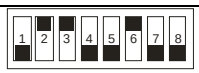
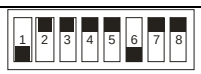
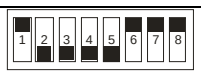
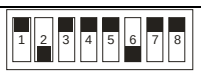
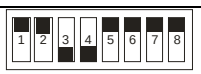


Figure 16 – Circuit board inside the MP4

SW1 is simply 8 small switches in the one physical package. The switch positions determine an 8 bit binary address to specify the weapon type.

For BFS compatibility, they must be configured as per the diagrams in the following two tables.

Commando	Berserker	Scorpion	Pulse Rifle
57	89	89 	101
58 	90	90 	102
59	91	91 	103 
60	92	92	104
61	93	93	105
62	94	94	106 
63	95	95	107
64	96	96	108
	97	97	109
	98	98	110
	99	99	111
	100 	100	112

Morita	M16	Mini Spitz	Spitfire
113	125	177	197
114	126	178	198
115	127	179	199
116	128	180	200
117	129	181	201
118	130	182	202
119	131	183	203
120	132	184	204
121	133	185	205
122	134	186	206
123 	135 	187 	207 
124	136	188	208